



PURCHAIN
TRACEABILITY AS A
SERVICE

October 2018



FUTURS



PUR

PROJET

NEEDS TACKLED
BY THE PUR
CHAIN

A BLOCKCHAIN
SERVICE FOR
SUPPLY CHAINS ...

... INTEGRATING A
GEOLOCATION
PLATFORM ...

... POWERED BY
RELEVANT
PARTNERS

METHODOLOGY &
PRICE



FUTURS.IO



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PROJECT



PUR CHAIN, A SOLUTION DEVELOPED TO ANSWER THE NEED FOR TRANSPARENCY IN COMPLEX SUPPLY CHAINS

Shortcomings of today's supply chains

1

INCREASING COMPLEXITY OF SUPPLY CHAINS

Stakeholders from crops to final products are not always clearly identified

2

STRONGER RESPONSIBILITY OF BRANDS

Brands need to have visibility on the origin of raw materials and the composition of their products to develop them

3

EVOLVING CUSTOMERS' DEMAND

Customers in various industries are expecting more transparency along supply chains

Tackled by the PUR Chain,
a blockchain dedicated to traceability along supply chains

PUR CHAIN, AN INNOVATIVE BLOCKCHAIN SOLUTION TO THE NEEDS OF SUPPLY CHAINS



Reliability / Security

Data entered in the blockchain are **decentralized, inviolable, permanent**:

- > No risk of double counting
- > No risk of alteration of information a posteriori, even by the service developer



Transparency

Supply chain information **visible to all stakeholders** in accordance with privacy:

- > Brands and consumers can check the origins of their products up to the level of detail of the production parcel
- > Producers can follow the journey of their production along its transformation



Innovation

Commitment to **traceability best practices** using the most advanced and complete technological means

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WHAT IS THE BLOCKCHAIN?

The Blockchain is an **information storage and transmission technology** that is secured, transparent and that works with **no central control device**. Concretely, it is a register that contains informations, data and transactions gathered in 'blocks'.

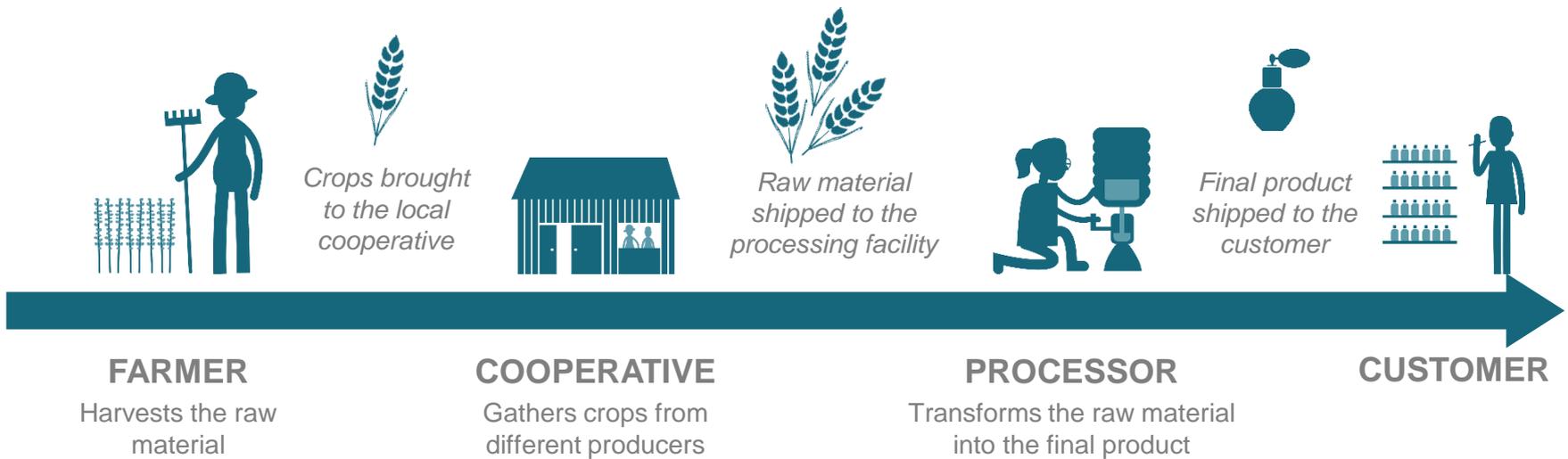
The features of this register are that:

- It is not stored on a central device but on multiple computers called knots of the network, which makes it **harder to attack**. If one computer stops working, the other ones keep working.
- There is no central control device to manage it: **nobody controls the register**. An algorithm allows all stakeholders involved to agree on the status of the register at any time.



It can be compared with a **big account book** in which all the stakeholders write simultaneously, each new transaction being written after each other, without the possibility to modify or delete the previous ones.

A USE CASE EXAMPLE : FROM CROPS TO FINAL CUSTOMER



Use of blockchain all along the traceability to notarize flows of raw materials from the crop to the customer in an inviolable and transparent manner

TRACEABILITY LAYS ON THE REGISTRATION IN THE BLOCKCHAIN OF PIECE OF EVIDENCE



FARMER

COOPERATIVE

PROCESSOR

CUSTOMER

Register #1

Register #2

Register #3

Data registered into the blockchain

Date of delivery
Shipment reference
Product
Weight / Volume
Characteristics
Farm and parcel location

Date of delivery
Shipment reference
Batch composition
(with link to register #1)

Date of delivery
Shipment reference
Batch composition
(with link to registers #1 & 2)

Contribution of each stakeholder

The farmer declares the shipment delivered.

The cooperative declares the shipment received. It can stand in for the farmer's declaration.

The cooperative declares the shipment delivered.

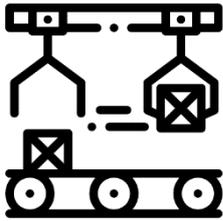
The processor declares the shipment received.

The processor declares the shipment delivered.

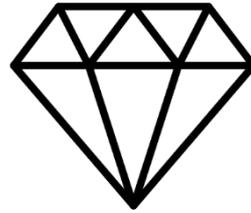
The customer declares the shipment received.

*Data are:
Timestamped
Permanent
Forgery proof
Decentralized*

BLOCKCHAIN-BASED TRACEABILITY FOR ALL KINDS OF SUPPLY CHAINS



Industry



Jewelry



Food and
beverage



Cosmetics

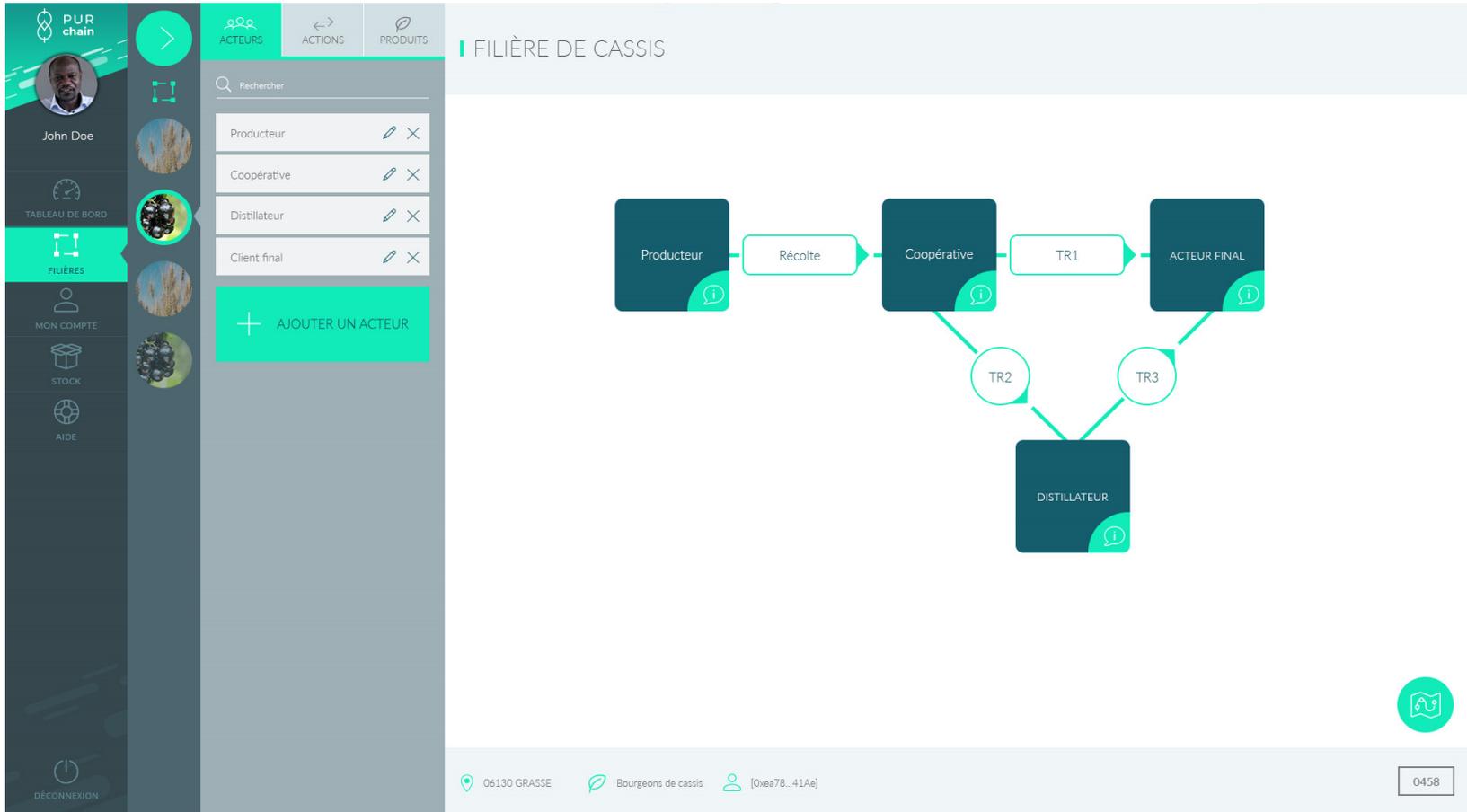


Drugs



Retail

A USER-FRIENDLY INTERFACE TO ORGANIZE AND MONITOR YOUR SUPPLY CHAINS



The screenshot displays the PUR chain software interface. On the left is a dark sidebar with navigation options: 'John Doe' (user profile), 'TABLEAU DE BORD' (dashboard), 'FILIÈRES' (supply chains), 'MON COMPTE' (my account), 'STOCK', 'AIDE' (help), and 'DÉCONNEXION' (logout). The main header includes 'ACTEURS' (actors), 'ACTIONS' (actions), and 'PRODUITS' (products). Below the header is a search bar and a list of actor types: 'Producteur', 'Coopérative', 'Distillateur', and 'Client final', each with edit and delete icons. A '+ AJOUTER UN ACTEUR' button is at the bottom of this list. The main content area is titled 'FILIÈRE DE CASSIS' and features a flowchart. The flowchart shows a 'Producteur' (Producer) leading to 'Récolte' (Harvest), then to a 'Coopérative' (Cooperative). From the Cooperative, the flow splits into two paths: one through 'TR1' to 'ACTEUR FINAL' (Final Actor), and another through 'TR2' and 'TR3' to a 'DISTILLATEUR' (Distiller). The flowchart uses dark teal boxes for actors and white rounded rectangles for processes, connected by arrows. A bottom status bar shows location '06130 GRASSE', product 'Bourgeons de cassis', user '[Ovee78...41Ae]', and a '0458' counter.

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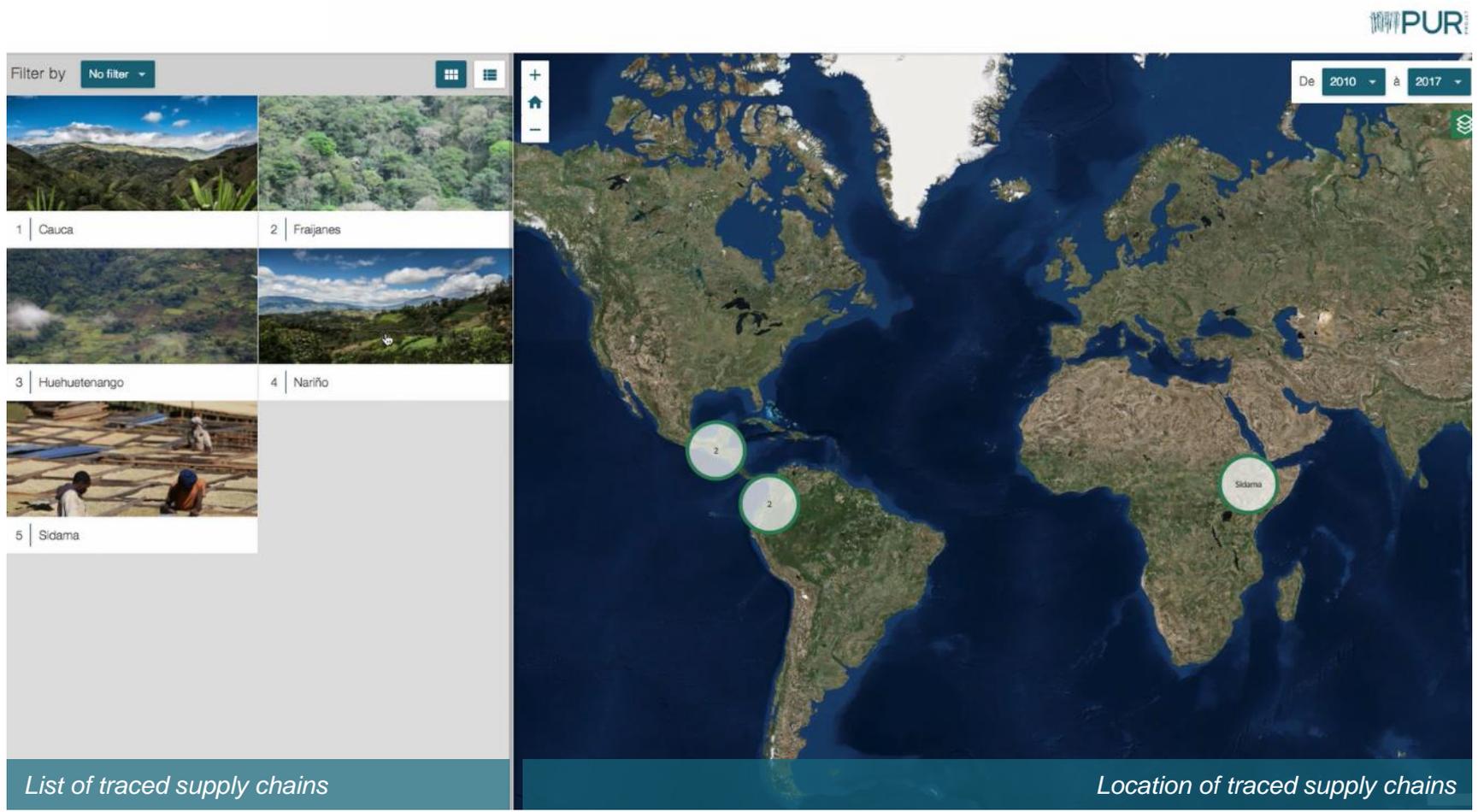
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A COMPLETE FEATURE TO LOCATE AND EXPLORE THE DETAILS OF SUPPLY CHAINS

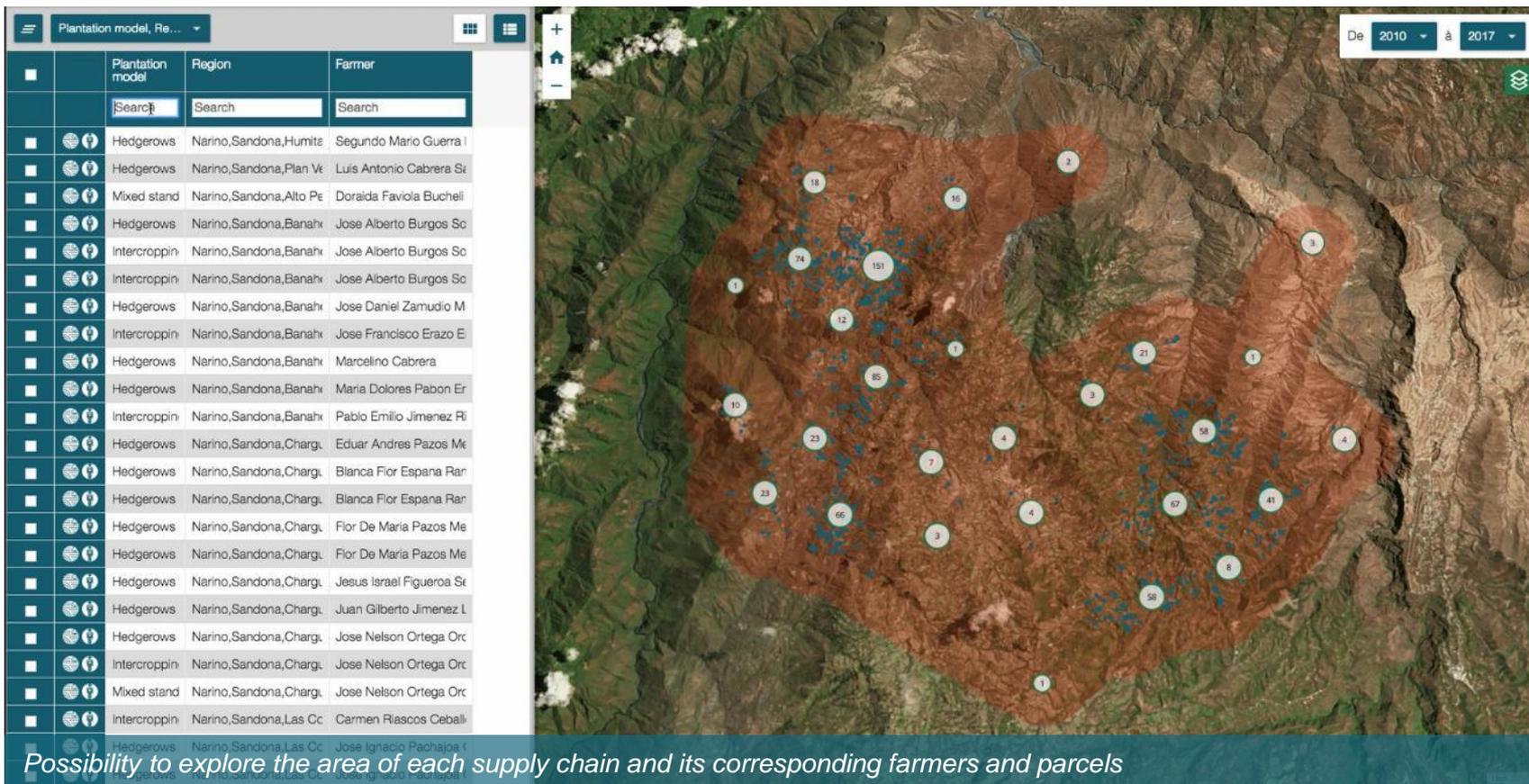


The screenshot displays the PUR Project interface. On the left, a 'Filter by' section shows a 'No filter' dropdown and a grid of five supply chain thumbnails. The thumbnails are labeled: 1 Cauca, 2 Fraijanes, 3 Huehuetenango, 4 Nariño, and 5 Sidama. The main area on the right is a world map with three green circular markers indicating the locations of traced supply chains: two in Central America (labeled '2') and one in East Africa (labeled 'Sidama'). The interface includes a date range selector at the top right set to 'De 2010 à 2017' and a 'PUR PROJECT' logo in the top right corner.

List of traced supply chains

Location of traced supply chains

AN INTERACTIVE MAP TO LOCATE YOUR TRACED SUPPLY CHAINS



| Plantation model | Region | Farmer |
|------------------|------------------------|--------------------------|
| Hedgerows | Narino,Sandona,Humita | Segundo Mario Guerra I |
| Hedgerows | Narino,Sandona,Plan Ve | Luis Antonio Cabrera Si |
| Mixed stand | Narino,Sandona,Alto Pe | Doraida Faviola Buchelli |
| Hedgerows | Narino,Sandona,Banahr | Jose Alberto Burgos So |
| Intercroppin | Narino,Sandona,Banahr | Jose Alberto Burgos So |
| Intercroppin | Narino,Sandona,Banahr | Jose Alberto Burgos So |
| Hedgerows | Narino,Sandona,Banahr | Jose Daniel Zamudio M |
| Intercroppin | Narino,Sandona,Banahr | Jose Francisco Erazo E |
| Hedgerows | Narino,Sandona,Banahr | Marcelino Cabrera |
| Hedgerows | Narino,Sandona,Banahr | Maria Dolores Pabon Er |
| Intercroppin | Narino,Sandona,Banahr | Pablo Emilio Jimenez Ri |
| Hedgerows | Narino,Sandona,Chargi | Eduar Andres Pazos Me |
| Hedgerows | Narino,Sandona,Chargi | Bianca Fior Espana Rar |
| Hedgerows | Narino,Sandona,Chargi | Bianca Fior Espana Rar |
| Hedgerows | Narino,Sandona,Chargi | Fior De Maria Pazos Me |
| Hedgerows | Narino,Sandona,Chargi | Fior De Maria Pazos Me |
| Hedgerows | Narino,Sandona,Chargi | Fior De Maria Pazos Me |
| Hedgerows | Narino,Sandona,Chargi | Jesus Israel Figueroa Si |
| Hedgerows | Narino,Sandona,Chargi | Juan Gilberto Jimenez L |
| Hedgerows | Narino,Sandona,Chargi | Jose Nelson Ortega Orc |
| Intercroppin | Narino,Sandona,Chargi | Jose Nelson Ortega Orc |
| Mixed stand | Narino,Sandona,Chargi | Jose Nelson Ortega Orc |
| Intercroppin | Narino,Sandona,Las Cc | Carmen Riascos Ceballi |
| Hedgerows | Narino,Sandona, Las Cc | Jose Ignacio Pachajoa t |
| Hedgerows | Narino,Sandona, Las Cc | Jose Ignacio Pachajoa t |

Possibility to explore the area of each supply chain and its corresponding farmers and parcels

A DESCRIPTION WINDOW TO GET DETAILED INFORMATIONS ON PROJECTS AND PRODUCERS



Project Nariño

Name
Nariño

Description
The FNC Cooperative and the PUR Project team thank you for your commitment to the Cauca y Nariño project. The project aims at preserving and regenerating forestry ecosystems in the department of Cauca and Nariño in Colombia. In collaboration with the farmers, native trees have been selected and planted in and around their coffee farms. Your tree will be looked after and its growth monitored in the long term in order to optimize the associated benefits: from coffee quality and yields, to soil conservation, climate resilience and income diversification for the farmers through timber and fruit harvesting.

Country
Colombia

Region
Cauca and Nariño regions, Colombia

Description of a project



Project Nariño / Farmer Luis Emilio Bejarano Andrade / Parcel TATAPLLUSAM2BO1

Code
TATAPLLUSAM2BO1

Wave
2015

Plantation model
Intercropping shading + Perimeter

Planted area
1.4

Project
Nariño

*Description of a parcel
Plantation wave, plantation model, size...*



Project Nariño / Farmer Luis Emilio Bejarano Andrade

Name
Luis Emilio Bejarano Andrade

Code
992936

Number of parcels
3

Region list
Nariño, Sandona, El Perajil, Nariño, Sandona, Plan Verde

Model list
Hedgerous Lines, Intercropping shading + Perimeter

Total planted area

*Description of a farmer
Name, varieties cultivated, total number of parcels, total area of production...*

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A SERVICE OFFERED BY EXPERIENCED PARTNERS GATHERED AROUND SHARED VALUES



Social business dedicated to support livelihoods and promote the conservation and regeneration of ecosystems

- Commitment to strengthen the **integrity of supply chains**
- Strong **field experience** in close proximity to all stakeholders of agricultural supply chains



Consulting, production and communication agency dedicated to innovative technologies and uses

- Development of **blockchain projects** in Paris, Brussels, Luxembourg and Singapore since 2015
- Strong experience in IT projects

Together, PUR Projet and Futurs.io opted for a **private blockchain**: the transactions registered in the blockchain are verified by a limited number of stakeholders defined upstream during the construction of the blockchain. They are not based on algorithms performed in energy intensive mining farms.

→ **The needs for transparency and security are addressed while limiting energy consumption.**

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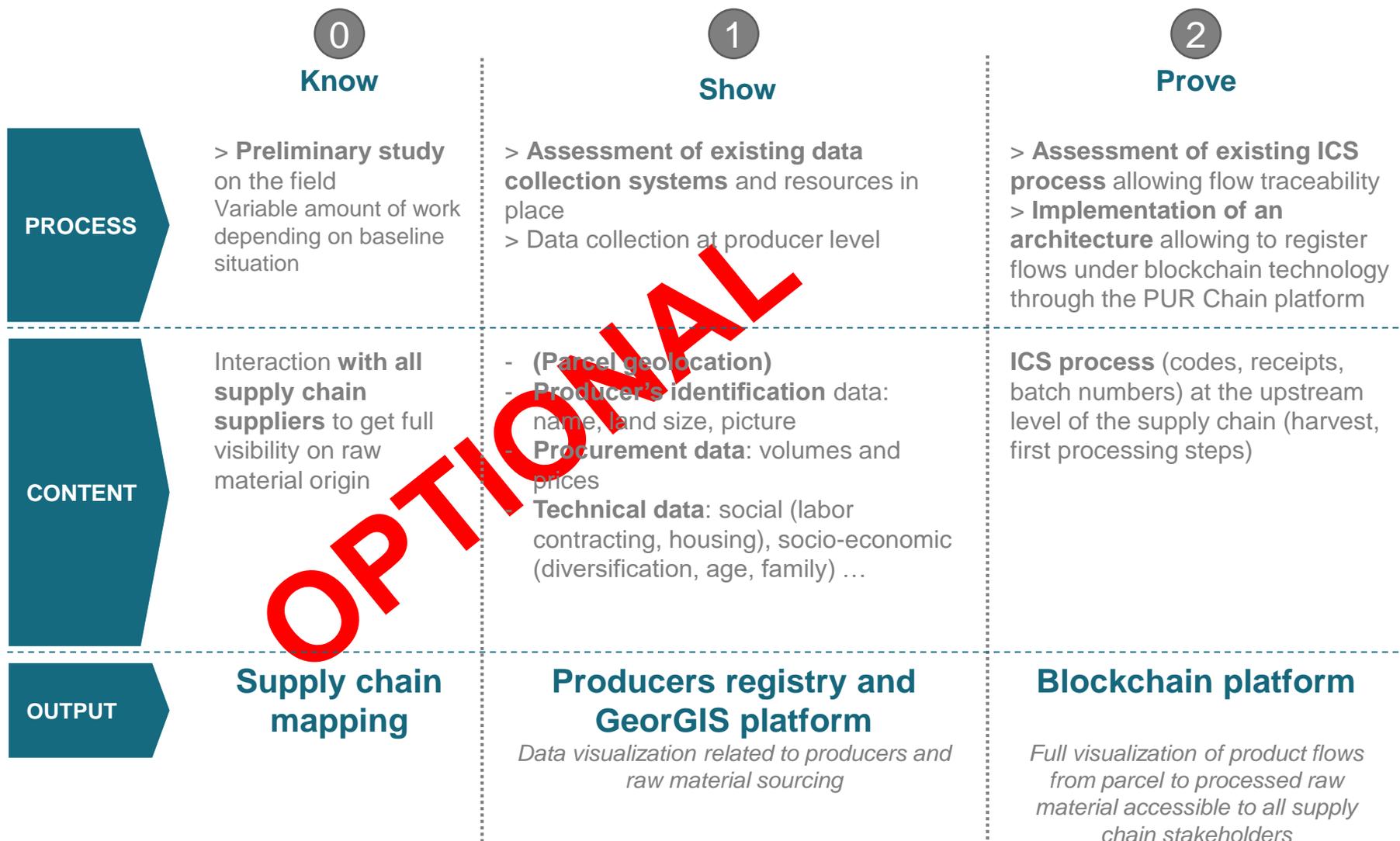
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A 3 STEPS METHODOLOGY FOR THE DEPLOYMENT OF THE PUR CHAIN



OPTIONAL

PRICING MODEL

| | 0- Know | 1- Show | 2- Prove | COMMUNICATION (optional) |
|---|---|---|--|---|
| <p>Non-specific</p> <p><i>(corresponds to the yearly subscription cost of the IT solution)</i></p> | - | <p>Yearly subscription to GeorGIS: € 15,000</p> <p>Yearly price per active supply chain on GeorGIS: € 2,000</p> | <p>Yearly subscription to full PUR Chain including GeorGIS: € 30,000</p> <p>Yearly price per active supply chain: € 5,000</p> <p>Yearly price per active wallet: € 12</p> | - |
| <p>Specific</p> <p><i>(corresponds to “consulting costs” necessary to adapt the solution)</i></p> <p>Minimum / Usual / Maximum: indicative ranges reflecting the history, existing knowledge and level of complexity for a given supply chain</p> | <p>X man days / supply chain</p> <p>Field or desk, interaction with procurement teams, suppliers, formalization.</p> | <p>X man days / supply chain</p> <p>Desk / Field diagnosis Management of data collection with local technicians.</p> | <p>X man days / supply chain</p> <p>Field diagnosis on several sites, training of local stakeholders.</p> | <p>Video production, support to press releases, participation to internal and external conferences.</p> |
| | <p>Min: € 0 to € 10,000 Average: € 10,000 to € 20,000 Max: > € 20,000</p> | <p>Min: € 0 to € 10,000 Average: € 10,000 to € 20,000 Max: > € 20,000</p> | <p>Min: € 0 to € 10,000 Average: € 10,000 to € 20,000 Max: > € 20,000</p> | <p>Min: € 0 to € 10,000 Average: € 10,000 to € 20,000 Max: > € 20,000</p> |



PUR
chain

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